

LifeGuard

Mobile system instantly finds, displays on monitor, and photographs source of gunfire

The LifeGuard system uses an advanced high-speed sensor and fast computer processing to find bullets in flight, locate the source of fire, and show the source on a computer display screen. Successful tests have been carried out at a firing range with various weapons. A major application of this system would be for use in law enforcement. The system can be put in a fixed position for surveillance, mounted on a car or a helicopter and, in a future model, hand carried.



Demonstration of the LifeGuard system with the bullet tracks shown in the inset photo.

APPLICATIONS

- Law enforcement
- SWAT team situations
- VIP protection
- Firefight—documentation of first to fire
- Embassy/consulate protection sentry
- Gang neighborhood protection sentry

How it works

LifeGuard works by recognizing the firing of a gun and tracking the position of the bullet in flight. A bullet has a unique signature that cannot be faked or disguised. The system can form the track without cueing from the gunfire, so a silencer doesn't mask the shot. Using the bullet track alone, the computer can back-predict the bullet's path and infer the location of the shooter. LifeGuard works in the day or night and uses a TV camera to show the operator the scene. The computer draws the track of the bullet on the screen displaying the scene less than a second after the bullet is fired.

Features

LifeGuard can save the images of the bullet tracks for later analysis or use as evidence. LifeGuard can also be operated in a recording mode in situations in which it is important to determine where the first shot came from. A fast reacting positioner that holds a light and camera to automatically illuminate and photograph the source of fire is being integrated into the system. LifeGuard is being developed with new, fast sensors and signal processing computers.

Any technology requiring the fast analysis of signal or image data, such as inspections or surveillance, could benefit from LifeGuard research.

Availability: LifeGuard is in development and testing. The first field-test systems will be available in the second quarter of 1996.

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